

What is claimed is:

1. A method for manufacturing a transistor, comprising the steps of:
  - preparing a substrate;
  - 5 preparing a liquid material containing a silane compound, the silane compound forming a high order silane when photopolymerized;
  - coating the liquid material on the substrate so as to form a coating film;
  - exposing the coating film to an atmosphere comprising at least one of oxygen and ozone so as to oxidize a surface of the coating film; and
  - 10 performing at least one of thermal processing and photoirradiation processing on the coating film in an inert atmosphere so as to transform the coating film into a silicon layer and a silicon oxide layer disposed on the silicon layer.
2. A method for manufacturing a transistor according to claim 1, wherein the silicon  
15 oxide layer is a gate insulator film of the transistor.
3. A method for manufacturing a transistor according to claim 1, wherein in the step of oxidizing a surface of the coating film by exposing the coating film to an atmosphere comprising at least one of oxygen and ozone, ultraviolet light is irradiated on the  
20 substrate on which the coating film is formed.
4. A method for manufacturing a transistor, comprising the steps of:
  - preparing a liquid material containing a silane compound, the silane compound forming a high order silane when photopolymerized;
  - 25 coating the liquid material on the substrate so as to form a coating film;

performing at least one of thermal processing and photoirradiation processing on the coating film in an oxidizing atmosphere containing an inert gas, obtained by introducing a predetermined quantity of oxygen or ozone into an inert atmosphere, so as to transform the coating film into a silicon layer and a silicon oxide layer disposed on the silicon layer.

- 5 5. A method for manufacturing a transistor according to claim 4, wherein the silicon oxide layer is a gate insulator film of the transistor.
- 10 6. A method for manufacturing a transistor according to claim 4, wherein in the step of oxidizing a surface of the coating film by exposing the coating film to the oxidizing, inert atmosphere, ultraviolet light is irradiated on the substrate on which the coating film is formed.
- 15 7. A method for manufacturing a transistor according to claim 1, wherein the silane compound is photopolymerized into high order silane by irradiating ultraviolet light onto the liquid material, before the liquid material is coated on the substrate.
- 20 8. A method for manufacturing a transistor according to claim 4, wherein the silane compound is photopolymerized into high order silane by irradiating ultraviolet light onto the liquid material, before the liquid material is coated on the substrate.
- 25 9. A method for manufacturing a transistor according to claim 7, wherein an impurity as a dopant source is added to the liquid material after the silane compound has been photopolymerized into high order silane by irradiating ultraviolet light.

10. A method for manufacturing a transistor according to claim 8, wherein an impurity as a dopant source is added to the liquid material after the silane compound has been photopolymerized into high order silane by irradiating ultraviolet light.

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11. A method for manufacturing a transistor according to claim 1, wherein the liquid material containing an impurity as a dopant source.

12. A method for manufacturing a transistor according to claim 4, wherein the liquid  
10 material containing an impurity as a dopant source.

13. A method for manufacturing a transistor according to claim 1, further comprising a step of forming a semiconductor layer containing a dopant, as source and drain areas on the substrate,

15                wherein the silicon layer formed from the liquid material is connected with the source and drain areas to form a channel area.

14. A method for manufacturing a transistor according to claim 4, further comprising a step of forming a semiconductor layer containing a dopant, as source and drain areas on  
20 the substrate,

                 wherein the silicon layer formed from the liquid material is connected with the source and drain areas to form a channel area.

15. A method for manufacturing a transistor according to claim 13, wherein a material  
25 for forming the semiconductor layer is a liquid material that contains a silane compound,

the silane compound forming high order silane when photopolymerized by an irradiation of ultraviolet light, and also contains an impurity as a dopant source.

16. A method for manufacturing a transistor according to claim 14, wherein a material  
5 for forming the semiconductor layer is a liquid material that contains a silane compound, the silane compound forming high order silane when photopolymerized by an irradiation of ultraviolet light, and also contains an impurity as a dopant source.

17. A method for manufacturing a transistor according to claim 15, wherein a coating  
10 of the material for forming the semiconductor layer on the substrate is made using a droplet discharge method.

18. A method for manufacturing a transistor according to claim 16, wherein a coating  
15 of the material for forming the semiconductor layer on the substrate is made using a droplet discharge method.

19. A method for manufacturing a transistor according to claim 1, wherein a coating of the liquid material on the substrate is made using a droplet discharge method.

20. A method for manufacturing a transistor according to claim 4, wherein a coating of the liquid material on the substrate is made using a droplet discharge method.

21. An electrooptical apparatus comprising a transistor obtained by the method for manufacturing a transistor according to claim 1.

22. An electrooptical apparatus comprising a transistor obtained by the method for manufacturing a transistor according to claim 4.

23. An electronic apparatus comprising the electrooptical apparatus according to claim

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24. An electronic apparatus comprising the electrooptical apparatus according to claim

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